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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,592	09/15/2003	Tatsuomi Nakayama	023971-0311	8077

22428 7590 04/17/2007
FOLEY AND LARDNER LLP
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3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

JOYCE, WILLIAM C

ART UNIT

PAPER NUMBER

3682

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/661,592	NAKAYAMA ET AL.	
	Examiner	Art Unit	
	William C. Joyce	3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4 and 6-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4 and 6-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the amendment filed January 23, 2007 for the above identified patent application.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4 and 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiba et al. (USP 6,629,906) in view of Shibata (US Pub 2005/0160602).

Chiba et al. discloses a method of producing a toroidal components for a traction drive device to which a power roller frictionally contacts during operation of the traction drive device, comprising: preparing a circular steel body that has been subjected to a carbonitriding hardening/tempering process (column 11, lines 19-28), the steel body having a concentric toroidal surface which is formed with a plurality of fine recesses each having a depth of smaller than 3 μm . Referring to example 42 (column 41, line 20+), Chiba et al. discloses that the traction coefficient can be improved by forming the traction contact surface smoothened by roller burnishing (column 41, lines 50-53).

Chiba et al. does not provide a specific method steps used in roller burnishing, however it was well known in the art to roller burnish a machine component using the claimed forming steps. For example, the prior art to Shibata teaches the forming steps

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of roller burnishing, wherein a circular steel body (1) is rotated about a rotation axis with respect to a spherical ball member (C) thereof, pressing a ball member against the body surface with a given pressing force, and moving the ball member on a given angular range of the body surface in a direction perpendicular to the axis of the circular steel body while pressing the ball member against the body surface with the given pressing force.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to roller burnish the toroidal disc of Chiba et al. with the claimed method steps, as taught by Shibata, motivation being to finish the traction surface using a simple and well known forming operation.

Chiba et al. does not clearly disclose the working values as defined by the claims, such as a pressing force of less than 200N, contact pressure of 2.5 to 5.5 GPa, or feed rate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the claimed working values in forming a CVT component, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

3. Claims 4 and 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiba et al. (USP 6,629,906) in view of the publication titled "Roller Burnishing of Hard Turned Surfaces" by Klocke et al.

Chiba et al. discloses a method of producing a toroidal components for a traction drive device to which a power roller frictionally contacts during operation of the traction drive device, comprising: preparing a circular steel body that has been subjected to a carbonitriding hardening/tempering process (column 11, lines 19-28), the steel body having a concentric toroidal surface which is formed with a plurality of fine recesses each having a depth of smaller than 3 μm . Referring to example 42 (column 41, line 20+), Chiba et al. discloses that the traction coefficient can be improved by forming the traction contact surface smoothened by roller burnishing (column 41, lines 50-53).

Chiba et al. does not provide a specific method steps used in roller burnishing, however it was well known in the art to roller burnish a machine component using the claimed forming steps. For example, the prior art titled "Roller Burnishing of Hard Turned Surfaces" by Klocke et al. teaches the forming steps of roller burnishing, wherein a circular steel body is rotated about a rotation axis with respect to a spherical ball member thereof, pressing a ball member against the body surface with a given pressing force.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to roller burnish the toroidal disc of Chiba et al. with the claimed method steps, as taught by prior art titled "Roller Burnishing of Hard Turned Surfaces by Klocke et al., motivation being to finish the traction surface using a simple and well known forming operation.

Chiba et al. does not clearly disclose the working values as defined by the claims, such as a pressing force of less than 200N, contact pressure of 2.5 to 5.5 GPa,

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or feed rate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the claimed working values in forming a CVT component, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Response to Arguments

4. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Joyce whose telephone number is (571) 272-7107. The examiner can normally be reached on Monday - Thursday 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

 4/5/07
William C. Joyce